

Appendix 7-P Abandoned Equipment

On January 14, 2003 a roof fall occurred in the Hiawatha seam of the #1 Bear Canyon Mine. This roof fall buried a coal hauler, a distribution box, and a shop trailer. After the roof fall all remaining equipment was removed from the section and the area was sealed off. This is a concern for groundwater contamination since water monitoring site SBC-11 is in the area and there are floor and roof seeps in the area. The entry where the equipment was left is higher then the surrounding entries so water should flow around it. Also drainpipes were installed in the seals close to SBC-11 at a lower elevation than the abandoned equipment so water should drain out of the area before reaching the level of the equipment. The water is currently draining from the area through the pipes into monitoring site SBC-9A. Because of hazardous roof conditions in that area, it will be abandoned in 2003 or 2004 and the water will be allowed to fill until it reaches entry 26 at which point it will drain to the portals. Co-Op Mining Company uses the water for mine and culinary use and will continue to monitor it for the life of the mine. The anticipated path of the water is illustrated on the following diagram. A copy of the MSHA accident report has also been included. The area of the roof fall is also shown on Plate 7-10B.

Potential contaminants to ground water from buried equipment are battery acid and oil. Current water sampling will detect these. The types and quantities are listed below.

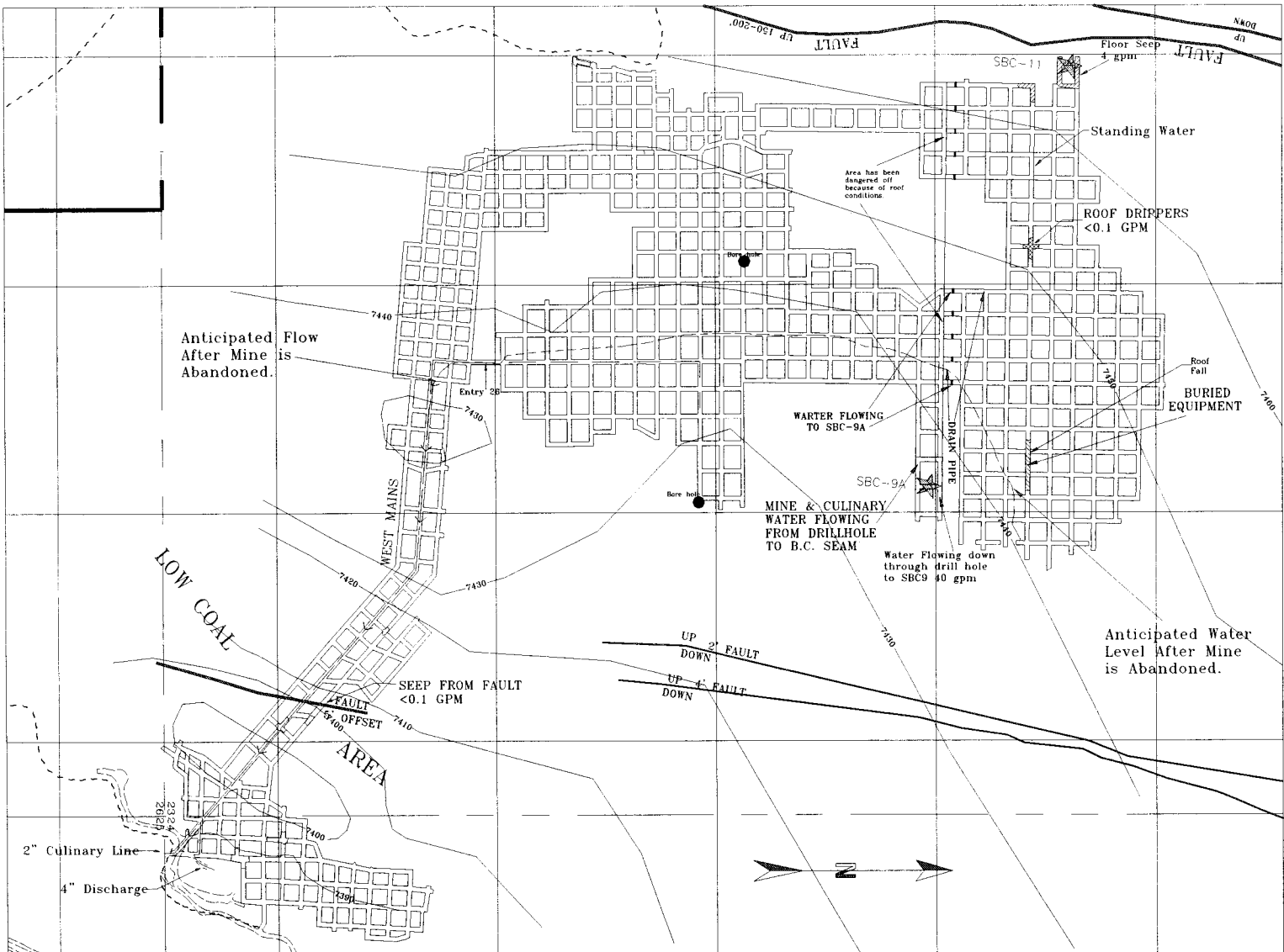
15 Gallons of R & O 150 in the gear boxes.

50-55 Gallons of Hydraulic oil.

20-28 Gallons of battery acid in the batteries.

MSDS's for the substances have been included.

Figure 7P-1 Hiawatha Seam Mine Water



U.S. Department of Labor

Mine Safety and Health Administration



Section A—Identification Data

Approved For Use Through 06/30/92, OMB Number 1219-0007

MSHA ID Number 42-01697 Contractor ID _____ Report Category ☐ Metal/Nonmetal Mining ☒ Coal Mining ☐ Check here if report pertains to contractor.

Mine Name CW Mining Company Company Name Bear Canyon #1

Section B—Complete for Each Reportable Accident Immediately Reported to MSHA

1. Accident Code (circle applicable code—see instructions) 01—Death 02—Serious Injury 03—Entrapment
04—Inundation 05—Gas or Dust Ignition 06—Mine Fire 07—Explosives 08—Roof Fall
09—Outburst 10—Impounding Dam 11—Hoisting 12—Offsite Injury

2. Name of Investigator Ken Defta 3. Date Investigation Started 1/14/03 4. Steps Taken to Prevent Recurrence of Accident action was abandoned

Section C—Complete for Each Reportable Accident, Injury or Illness

5. Circle the Codes Which Best Describe Where Accident/Injury/Illness Occurred (see instructions)

(a) Surface Location: 02 Surface at Underground Mine 30 Mill, Preparation Plant, etc. 03 Strip/Open Pit Mine 04 Surface Auger Operation
05 Culm Bank/Refuse Pile 06 Dredge Mining 12 Other Surface Mining 17 Independent Shops (with own MSHA ID) 99 Office Facilities
(b) Underground Location: 01 Vertical Shaft 02 Slope/Inclined Shaft 03 Face 04 Intersection 05 Underground Shop/Office 06 Other
(c) Underground Mining Method: 01 Longwall 02 Shortwall 03 Conventional Stopping 05 Continuous Mining 06 Hand 07 Caving 08 Other

6. Date of Accident 1/14/03 7. Time of Accident 6:45 ☒ am ☐ pm 8. Time Shift Started 6:00 ☒ am ☐ pm

9. Describe Fully the Conditions Contributing to the Accident/Injury/Illness, and Quantify the Damage or Impairment
Roof fall in 12' left entry cut E 4' and E 5'
X-cut approx 130' x 20' x 10' high + roof number 4
D-box and a shop tractor were hit in the fall

10. Equipment Involved _____ Type _____ Manufacturer _____ Model Number _____

11. Name of Witness to Accident/Injury/Illness _____ 12. Number of Reportable Injuries or Illnesses Resulting from This Occurrence _____

13. Name of Injured/Ill Employee _____ 14. Sex ☐ Male ☐ Female 15. Date of Birth _____

16. Last Four Digits of Social Security Number _____ 17. Regular Job Title _____ 18. Check if this injury/illness resulted in death. ☐ 19. Check if injury/illness resulted in permanent disability (include amputation, loss of use, & permanent total disability). ☐

20. What Directly Inflicted Injury or Illness? _____ 21. Nature of Injury or Illness _____

22. Part of Body Injured or Affected _____ 23. Occupational Illness (circle applicable code—see instructions) 24. Occupational Skin Diseases
22 Dust Diseases of the Lungs 23 Respiratory Conditions (toxic agents) 24 Poisoning (toxic materials)
25 Disorders (physical agents) 26 Disorders (repeated trauma) 29 Other

24. Employee's Work Activity When Injury or Illness Occurred _____ Experience _____ Years _____ Weeks _____
25. Experience in This Job Title _____
26. Experience at This Mine _____
27. Total Mining Experience _____

Section D—Return to Duty Information

☐ 28. Permanently Transferred or Terminated (if checked, complete items 29, 30, & 31) 29. Date Returned to Regular Job at Full Capacity (or item 28) _____ 30. Number of Days Away from Work (if none, enter 0) _____ 31. Number of Days Restricted Work Activity (if none, enter 0) _____

Person Completing Form (name) Ken Defta Title Superintendent
Date This Report Prepared (month, day, year) 1/17/03 Area Code and Phone Number (357) 687-5777

MSHA Form 7000-1, July 91 (Revised)

For Official Use Only	
Degree	_____
Accident Type	_____
Accident Class	_____
Scheduled Charge	_____
Keyword	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____



SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION: . . . : RENOLIN AW68 Hyd oil (reg)

MANUFACTURER IDENTIFICATION

Company Name. : FUCHS LUBRICANTS CO.
Address : 17050 LATHROP AVE.
HARVEY IL 60426
Telephone : 708-333-8900
Emergency Contact : Regulatory Compliance Department
Emergency Telephone . . . : 708-333-8900 (8am - 5pm CST, M-F)
800-255-3924 (24 Hours)

MSDS PRINT DATE : 09/13/2002

* EMERGENCY OVERVIEW

This product is a liquid that is insoluble in water.
Direct eye contact may cause temporary irritation. Short term skin exposure is not expected to be irritating. Inhalation and ingestion are not anticipated routes of exposure during normal conditions of use.

* HMIS Rating: Health- 1 Flammability- 1 Reactivity- 0 PPE- X

SECTION 2 - COMPONENT DATA

Components listed in this section may contribute to the potential hazards associated with exposure to the concentrate. The product may contain additional non-hazardous or trade-secret components.

Mineral Oil	Cas#: proprietary	Percent: > 90
Exposure Limit:		
ACGIH TLV:	5 mg/m3 (as mist)	
ACGIH STEL:	10 mg/m3 (as mist)	
OSHA PEL:	5 mg/m3 (as mist)	

- Carcinogenic Components: This product contains no carcinogens.

SECTION 3 - HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS and SYMPTOMS from SHORT TERM/ACUTE EXPOSURE:

- EYE EXPOSURE -

This product is not expected to cause eye irritation under normal conditions of use. Symptoms of temporary eye irritation and redness may result upon direct contact or when exposed to high mist levels in poorly ventilated areas.

- SKIN EXPOSURE -

Short term skin contact is not expected to cause skin irritation. Prolonged or repeated direct exposure to the skin may result in

FUCHS LUBRICANTS CO.



PRODUCT NAME: RENOLIN AW68

symptoms of irritation and redness. In severe cases, prolonged or repeated contact may result in dermatitis accompanied by symptoms of irritation, itching, dryness, cracking and/or inflammation.

- INHALATION -

This product has low volatility and so is not expected to cause respiratory tract irritation during normal conditions of use. Exposure to high mist levels in poorly ventilated areas may cause upper respiratory tract irritation and difficulty breathing.

- INGESTION -

Ingestion may cause slight stomach irritation and discomfort.

POTENTIAL CHRONIC HEALTH EFFECTS:

No further data known.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

No further data known.

CARCINOGENICITY:

This product is not listed as a known or suspected carcinogen by IARC, OSHA, or the NTP.

SECTION 4 - FIRST AID MEASURES

EYE CONTACT:

Upon direct eye contact, hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. If irritation is due to exposure to mist or vapors, remove the individual to fresh air. If irritation persists, flush the eyes with clean water until the irritation subsides. If symptoms persist, contact a physician.

SKIN CONTACT:

Remove product from the skin by washing with a mild soap and water. Contaminated clothing should be removed to prevent prolonged exposure. If symptoms of exposure persist, contact a physician.

INHALATION:

Inhalation is not an expected route of exposure. If respiratory irritation or distress occurs, remove the employee to fresh air. Contact a physician or other medical professional if irritation or distress persists.

INGESTION:

If small amounts are ingested, first aid measures are not likely to be necessary. If larger amounts are ingested or if symptoms of ingestion occur, dilute stomach contents with two glasses of water or milk. (NOTE: Do NOT give anything by mouth to an unconscious person.) Do not induce

FUCHS LUBRICANTS CO.



PRODUCT NAME: RENOLIN AW68

This product is stable.

SECTION 11 - TOXICOLOGICAL INFORMATION

EYE EFFECTS:

No further toxicological data known.

SKIN EFFECTS:

No further toxicological data known.

ORAL EFFECTS:

No further toxicological data known.

INHALATION EFFECTS:

No further toxicological data known.

OTHER:

No further data known.

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:

This product has not been evaluated for ecotoxicity. As with any industrial chemical, exposure to the environment should be prevented and minimized wherever possible.

ENVIRONMENTAL FATE:

The degree of biodegradability and persistence of this product has not been determined.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

Ensure that collection, transport, treatment, and disposal of waste product, containers and rinsate complies with all applicable laws and regulations. Note that use, mixture, processing, or contamination of the product may cause the material to be classified as a hazardous waste. It is the responsibility of the product user or owner to determine at the time of disposal, whether the product is regulated as a hazardous waste.

SECTION 14 - TRANSPORT INFORMATION

DOT HAZARDOUS MATERIAL INFORMATION:

* Not otherwise DOT regulated.

SECTION 15 - REGULATORY INFORMATION

FEDERAL REGULATIONS:

FUCHS LUBRICANTS CO.



PRODUCT NAME: RENOLIN AW68

SARA 313:

This product contains NONE of the substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Clean Water Act / Oil Pollution Act:

This product contains mineral oil and is subject to regulation by Section 311 of the Clean Water Act and the Oil Pollution Act. Releases of the product into or leading to surface waters must be reported to the National Response Center at 1-800-424-8802.

CERCLA Reportable Quantity:

Any components listed below have been assigned a reportable quantity (RQ) by the Federal EPA. Releases of the product into the environment that exceed the RQ for a particular component must be reported to the National Response Center at 1-800-424-8802.

Component	RQ
* - * - * - * - * - * - * - * - * - * - *	

Toxic Substances Control Act:

The components of this product are listed on the TSCA Inventory.

Ozone Depleting Substances:

This product contains no ozone depleting substances as defined by the Clean Air Act.

Hazardous Air Pollutants:

Any components listed below are defined by the Federal EPA as hazardous air pollutants.

Component
* - * - * - * - * - * - * - * - * - * - *

STATE REGULATIONS:

This product contains mineral oil, and as used, may be regulated by state used oil regulations. Check with the appropriate state agency to determine whether such a regulation exists.

No further data known.

SECTION 16 - OTHER INFORMATION

Prepared by : Corporate Regulatory Compliance
Date of issue : 09/13/2002
Last Revision Date : 03/17/2000
L0175



SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION: . . . : POWERGEAR EP5 (*Gear Oil*)

MANUFACTURER IDENTIFICATION

Company Name. : FUCHS LUBRICANTS CO.
Address : 17050 LATHROP AVE.
 HARVEY IL 60426
Telephone : 708-333-8900
Emergency Contact : Regulatory Compliance Department
Emergency Telephone . . . : 708-333-8900 (8am - 5pm CST, M-F)
 800-255-3924 (24 Hours)

MSDS PRINT DATE : 09/13/2002

* EMERGENCY OVERVIEW

This product is a liquid that is insoluble in water.
Direct eye contact may cause minor, short term irritation. Short term skin exposure is not expected to be irritating. Inhalation and ingestion are not anticipated routes of exposure during normal conditions of use.

* HMIS Rating: Health- 1 Flammability- 1 Reactivity- 0 PPE- X

SECTION 2 - COMPONENT DATA

Components listed in this section may contribute to the potential hazards associated with exposure to the concentrate. The product may contain additional non-hazardous or trade-secret components.

Mineral Oil	Cas#: proprietary	Percent: < 95
Exposure Limit:		
ACGIH TLV:	5 mg/m3 (as mist)	
ACGIH STEL:	10 mg/m3 (as mist)	
OSHA PEL:	5 mg/m3 (as mist)	

- Carcinogenic Components: This product contains no carcinogens.

SECTION 3 - HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS and SYMPTOMS from SHORT TERM/ACUTE EXPOSURE:

- EYE EXPOSURE -

This product is not expected to cause eye irritation under normal conditions of use. Symptoms of slight eye irritation may result when direct contact occurs, or when exposed to high mist levels in poorly ventilated areas.

- SKIN EXPOSURE -

Short term skin contact is not expected to cause skin irritation. Prolonged or repeated direct exposure to the skin may result in

FUCHS LUBRICANTS CO.



PRODUCT NAME: POWERGEAR EP5

symptoms of irritation and redness. In severe cases, prolonged or repeated contact may result in dermatitis accompanied by symptoms of irritation, itching, dryness, cracking and/or inflammation.

- INHALATION -

This product has low volatility and so is not expected to cause respiratory tract irritation during normal conditions of use. Exposure to high mist levels in poorly ventilated areas may cause upper respiratory tract irritation and difficulty breathing.

- INGESTION -

Ingestion may cause slight stomach irritation and discomfort.

POTENTIAL CHRONIC HEALTH EFFECTS:

No further data known.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

No further data known.

CARCINOGENICITY:

This product is not listed as a known or suspected carcinogen by IARC, OSHA, or the NTP.

SECTION 4 - FIRST AID MEASURES

EYE CONTACT:

Upon direct eye contact, hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. If irritation is due to exposure to mist or vapors, remove the individual to fresh air. If irritation persists, flush the eyes with clean water until the irritation subsides. If symptoms persist, contact a physician.

SKIN CONTACT:

Remove product from the skin by washing with a mild soap and water. Contaminated clothing should be removed to prevent prolonged exposure. If symptoms of exposure persist, contact a physician.

INHALATION:

Inhalation is not an expected route of exposure. If respiratory irritation or distress occurs, remove the employee to fresh air. Contact a physician or other medical professional if irritation or distress persists.

INGESTION:

If small amounts are ingested, first aid measures are not likely to be necessary. If larger amounts are ingested or if symptoms of ingestion occur, dilute stomach contents with two glasses of water or milk. (NOTE: Do NOT give anything by mouth to an unconscious person.) Do not induce

FUCHS LUBRICANTS CO.



PRODUCT NAME: POWERGEAR EP5

SARA 313:

This product contains NONE of the substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Clean Water Act / Oil Pollution Act:

This product contains mineral oil and is subject to regulation by Section 311 of the Clean Water Act and the Oil Pollution Act. Releases of the product into or leading to surface waters must be reported to the National Response Center at 1-800-424-8802.

CERCLA Reportable Quantity:

Any components listed below have been assigned a reportable quantity (RQ) by the Federal EPA. Releases of the product into the environment that exceed the RQ for a particular component must be reported to the National Response Center at 1-800-424-8802.

Component	RQ
* - * - * - * - * - * - * - * - * - * - *	

Toxic Substances Control Act:

The components of this product are listed on the TSCA Inventory.

Ozone Depleting Substances:

This product contains no ozone depleting substances as defined by the Clean Air Act.

Hazardous Air Pollutants:

Any components listed below are defined by the Federal EPA as hazardous air pollutants.

Component
* - * - * - * - * - * - * - * - * - * - *

STATE REGULATIONS:

This product contains mineral oil, and as used, may be regulated by state used oil regulations. Check with the appropriate state agency to determine whether such a regulation exists.

No further data known.

SECTION 16 - OTHER INFORMATION

Prepared by : Corporate Regulatory Compliance
Date of issue : 09/13/2002
Last Revision Date : 07/01/2002
C3601223

FUCHS LUBRICANTS CO.



PRODUCT NAME: POWERGEAR EP5

This product is stable.

SECTION 11 - TOXICOLOGICAL INFORMATION

EYE EFFECTS:

No further toxicological data known.

SKIN EFFECTS:

No further toxicological data known.

ORAL EFFECTS:

No further toxicological data known.

INHALATION EFFECTS:

No further toxicological data known.

OTHER:

No further data known.

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:

This product has not been evaluated for ecotoxicity. As with any industrial chemical, exposure to the environment should be prevented and minimized wherever possible.

ENVIRONMENTAL FATE:

The degree of biodegradability and persistence of this product has not been determined.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

Ensure that collection, transport, treatment, and disposal of waste product, containers and rinsate complies with all applicable laws and regulations. Note that use, mixture, processing, or contamination of the product may cause the material to be classified as a hazardous waste. It is the responsibility of the product user or owner to determine at the time of disposal, whether the product is regulated as a hazardous waste.

SECTION 14 - TRANSPORT INFORMATION

DOT HAZARDOUS MATERIAL INFORMATION:

* Not otherwise DOT regulated.

SECTION 15 - REGULATORY INFORMATION

FEDERAL REGULATIONS:

Buggy/Scrap Batteries

ATTN: MARK 687-2084

EAST PENN manufacturing co., inc.**Deka****- Material Safety Data Sheet -****Lead Acid Battery Wet, Filled with Acid****SECTION I****Manufacturer's Name:**East Penn Manufacturing Co., Inc.
Deka Road, Lyon Station, PA 19536

Telephone Number for Information: (610) 682-6361

Emergency Telephone Number: CHEMTREC: 1-800-424-9300,
In Washington D.C. or outside continental U.S., call 1-202-483-7616

Date: April 2000

Trade Name: Electric Storage battery, SLI or Industrial battery
Classification: Battery wet, filled with acid, electric storage
UN2794**SECTION II****HAZARDOUS INGREDIENTS/IDENTITY INFORMATION**

Hazardous Components Specific Chemical Identity (Common Name (s))	OSHA PEL	ACGIH TLV	Range Percent By Weight	Average
Lead, CAS #7439921	0.05 mg/m ³	0.05 mg/m ³	43-70	65
Sulfuric Acid, CAS #7664939	1.00 mg/m ³	1.00 mg/m ³	20-44	25
Antimony, CAS #7440360	0.50 mg/m ³	0.50 mg/m ³	0-4	<1
Arsenic, CAS #7440382	0.01 mg/m ³	0.01 mg/m ³	<0.1	-
Polypropylene, CAS #9003070	-	-	5-10	8
Calcium, CAS #7440702	1.0 mg/m ³	1.0 mg/m ³	<1	<1

SECTION III**PHYSICAL/CHEMICAL CHARACTERISTICS****Electrolyte (Sulfuric Acid):**

Appearance and Odor: Clear, Odorless, Colorless

Boiling Point: approximately 235° F

Evaporation Rate (Butyl Acetate=1): less than 1.0

Melting Point: N/A

Solubility in Water: Completely

Specific Gravity (H₂O=1): 1.220 - 1.325

Vapor Density (AIR=1): N/A

Vapor Pressure (mm Hg): 13

SECTION IV**FIRE AND EXPLOSION HAZARD DATA**

Flash Point (Method Used): Non-Flammable

Extinguishing Media: Class ABC extinguisher, CO₂

Special Fire Fighting Procedures: Cool exterior of battery if exposed to fire to prevent rupture. The acid mist and vapors in a fire situation are corrosive. Wear special respiratory protection (SCBA) and clothing.

Unusual Fire and Explosion Hazards: *Hydrogen gas, which may explode if ignited, is produced by this battery, especially when charging. Use adequate ventilation; avoid open flames, sparks, or other sources of ignition.

SECTION V**REACTIVITY DATA**

Stability: Stable

Condition to Avoid: Prolonged overcharging, sources of ignition

Incompatibility (Materials to Avoid): Sulfuric Acid: Contact with combustibles and organic materials may cause fire and explosion. Also reacts violently with strong reducing agents, metals, strong oxidizers and water. Contact with metals may produce toxic sulfur dioxide fumes and may release flammable hydrogen gas.

Hazardous Decomposition of By-Products: Sulfuric Acid: Excessive overcharging or fire may create Sulfur trioxide, carbon monoxide, sulfuric acid mist, sulfur dioxide, and hydrogen.

Lead Compounds: Contact with strong acid or base or presence of nascent hydrogen may generate highly toxic arsine gas.

MSDS: Battery Wet, Filled with Acid: Page 2 of 3

SECTION VI HEALTH HAZARD DATA

Route(s) of Entry: Not Applicable under normal use. (Inhalation, skin contact, and ingestion)

Health Hazards (Acute and Chronic): Do not open battery, avoid contact with internal components. Internal components are Oxide lead and electrolyte. **Short term exposure:** Sulfuric acid may cause irritation of eyes, nose, and throat. Prolonged contact may cause severe burns. **Long term exposure:** Repeated contact causes irritation and skin burns. Repeated exposure to mist may cause erosion of teeth, chronic eye irritation and/or chronic inflammation of the nose, throat, and bronchial tubes.

TARGET ORGAN: (Electrolyte) respiratory system, eyes, skin, and teeth

Carcinogenicity:

Sulfuric Acid: The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mist containing sulfuric acid" as a Category 1 carcinogen, a substance that is carcinogenic to humans. This classification does not apply to liquid forms of sulfuric acid contained within a battery. Inorganic acid mist (sulfuric acid mist) is not generated under normal use of this product. Misuse of the product such as overcharging, may result in the generation of sulfuric acid mist.

Lead Compounds: Lead is listed as a 2B carcinogen, likely in animals at extreme doses. Proof of carcinogenicity in humans is lacking at present.

Asbestos: Listed by National Toxicology Program (NTP), IARC, OSHA and NIOSH as a carcinogen only after prolonged exposure at high levels.

Signs and Symptoms of Exposure: Acid contact may cause irritation of eyes, nose and throat. Breathing of mist may produce respiratory difficulty. Contact with eyes and skin causes irritation and skin burns. Sulfuric acid is a CORROSIVE chemical.

Medical Conditions Generally Aggravated by Exposure: Sulfuric Acid Mist exposure may aggravate medical conditions such as, pulmonary edema, bronchitis, emphysema, dental erosion, and tracheobronchitis. Pregnant women and children must be protected from lead exposure.

Emergency and First Aid Procedures: (Sulfuric Acid)

- 1) Flush contacted area with large amounts of water for at least 15 minutes. Remove contaminated clothing and obtain medical attention if necessary. Eye wash and/or emergency shower should be readily available.
- 2) If swallowed, give large volumes of water. DO NOT induce vomiting, obtain medical treatment.

SECTION VII PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled: SULFURIC ACID: Dilute spill cautiously with five to six volumes of water and gradually neutralize with sodium bicarbonate, soda ash or lime. When exposure level is not known, wear NIOSH approved positive pressure self-contained breathing apparatus. Reference North American Emergency Response Guidebook, #154.

Waste Disposal Method: Lead-acid batteries are completely recyclable. For information on returning batteries to East Penn for recycling, contact your East Penn Representative. Dispose of any collected material in accordance with local, state or applicable federal regulations.

Precautions to be Taken in Handling and Storing: Store away from reactive material as defined in Section V, Reactivity Data. Place cardboard between layers of stacked batteries to avoid damage and short circuit. Do not allow metallic materials to simultaneously contact both terminals.

Other Precautions: Sodium bicarbonate, soda ash, sand, or lime should be kept in same general area for emergency use. Keep away from sources of ignition during charging see Section IV on generation of hydrogen gas. If battery case is broken, avoid direct contact with internal components.

SECTION VIII CONTROL MEASURES

Respiratory Protection (Specific Type): Respirator required when PEL is exceeded or employee witnesses respiratory irritation. (see Section VI, Health Hazard Data).

Ventilation: Must be provided when charging in an enclosed area. (29CFR1910.178(g) and 305(j)(7))

Mechanical (general): Acceptable at 1 to 4 air exchanges/hour or to maintain air concentrations below the PEL.

Local Exhaust: Preferred.

Other: Local building/fire codes may require explosion proof fans and equipment.

Protective Gloves: Acid resistant

Eye Protection: Preferred, safety glasses, goggles, face shield

Other Protective Clothing or Equipment: Acid resistant aprons, boots, and protective clothing

Work Hygienic Practices: Good Personal hygiene and work practices are mandatory.

MSDS: Battery Wet, Filled with Acid; Page 3 of 3

**SECTION IX
OTHER REGULATORY INFORMATION**

NFPA Hazard Rating	Sulfuric Acid	Lead
Health (Blue)	3	3
Flammability (Red)	0	0
Reactivity (Yellow)	2	0

Note: Sulfuric acid is water-reactive if concentrated.

U.S. DOT: Battery Wet, Filled with Acid

Hazard Class/Division	8
ID Number	UN2794
Packing Group	III
Label Requirement	Corrosive

RCRA: Spent lead-acid batteries are not regulated as hazardous waste when recycled. Spilled sulfuric acid is a characteristic hazardous waste, EPA hazardous waste number D002 (corrosivity).

CERCLA (Superfund) and EPCRA (Emergency Planning and Community Right to Know ACT)

- Reportable Quantity (RQ) for spilled 100% sulfuric acid is 1000 lbs.
- Sulfuric acid is a listed "Extremely Hazardous Substance" under EPCRA with a Threshold Planning Quantity (TPQ) of 1000 lbs.
- EPCRA Section 312 Tier II reporting required for batteries if sulfuric acid is present in quantities of 500 lbs or more and/or lead is present in quantities of 10,000 lbs or more.

California Prop 65: This product contains chemicals known to the State of California to cause cancer, birth defects and other reproductive harm.

For additional information concerning East Penn Manufacturing Co., Inc. products or questions concerning the content of this MSDS please contact your East Penn representative.

This information is accurate to the best of East Penn Mfg. Co.'s knowledge or obtained from sources believed by East Penn to be accurate. Before using any product, read all warnings and directions on the label.

TO: ED EDDINS

FROM: BOB FLICKER

FAX NO. (703) 669-8699

MATERIAL SAFETY DATA SHEET

NUMBER OF PAGES -2-

8-710
91:9203

Material Safety Data Sheet

May be used to comply with
OSHA's Hazard Communication Standard,
29 CFR 1910.1200. Standards must be
consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration
(Non-Mandatory Form)

Form Approved
OMB No. 1218-0072



IDENTITY (As Used on Label and List)

EPM lead alloy parts

Note: Blank spaces are not permitted. If any item is not applicable or no
information is available, the space must be marked to indicate this.

Section I

Manufacturer's Name

East Penn Manufacturing Co., Inc.

Emergency Telephone Number

(215) 682-6361

Address (Number, Street, City, State, and ZIP Code)

Deka Road

Telephone Number for Information

(215) 682-6361

Lyon Station, PA 19536

Date Prepared

June 27, 1989

Signature of Preparer (optional)

Section II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity, Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
Lead (7439-92-1)	0.05mg/m ³	0.15mg/m ³	(SARA III)	94.0%
Antimony (7440-36-0)	0.5 mg/m ³	0.5 mg/m ³	(SARA III)	2.8-6.0%
Arsenic (7440-38-2)	0.01mg/m ³	0.2mg/m ³		≤ 0.2%
Tin (7440-31-5)	2.0 mg/m ³	2.0 mg/m ³		≤ 0.4%

Additional elements such as copper, silver, nickel, etc. may be present, however,
their concentration is less than 0.05%.

Section III - Physical/Chemical Characteristics

Boiling Point	lead	1740°C	Specific Gravity (H ₂ O = 1)	11.3 (at 20°C)
Vapor Pressure (mm Hg)	1mmHg at 973°C		Melting Point	328°C
Vapor Density (AIR = 1)	not applicable (n/a)		Evaporation Rate (Butyl Acetate = 1)	n/a

Solubility in Water

insoluble

Appearance and Odor

bluish-gray soft metal

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used)	not available	Flammable Limits	not available	LEL	UEL
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Extinguishing Media

Dry chemical and/or carbon dioxide. Use water fog or alcohol foam for larger fires.

Special Fire Fighting Procedures

Highly toxic lead fumes may evolve when the metal is heated. Wear protective clothing
and a self-contained breathing apparatus.

Unusual Fire and Explosion Hazards

Lead dust is a moderate fire and explosion hazard when exposed to heat or flame. Lead
pigs and parts may contain cavities of moisture when stored in a wet environment;
entrapped moisture may expand explosively when melted or heated.

(Reproduce locally)

OSHA 176, Sept 1985

31 9204

REFERENCE FILE

Section V - Reactivity Data

Stability:	UNSTABLE		Conditions to Avoid Lead material is stable under normal conditions.
	Stable	X	
Avoid oxidizing agents and active metals. Contact with disodium acetyl chloride trifluoride, or fused ammonium nitrate poses an explosion risk. Contact with sodium azide can form a lead azide which is a detonating compound.			
Thermal oxidation products are highly toxic lead fume.			
Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	

Section VI - Health Hazard Data

Routings of Entry: Inhalation? Skin? Ingestion?

Health Hazards (Acute and Chronic)

The handling of lead alloy parts presents few health hazards itself. However, prolonged exposure to lead fume or dust can result in lead poisoning. Lead accumulates in the bone and body organs and is eliminated from the body slowly.

Carcinogenicity: NTP? IARC Monographs? OSHA Regulation? 29CFR 1910.1025

Signs and Symptoms of Exposure Short term: headache, nausea, vomiting, abdominal spasms, fatigue, weight loss, anemia, pain in legs, arms, joints. Long term: CNS damage, kidney dysfunction and potential reproductive hazard. Symptoms of lead exposure may be confirmed by the presence of elevated levels of lead in the blood.

Generally Aggravated by Exposure Pregnant women should be protected from excessive exposure.

Emergency and First Aid Procedures EYE & SKIN: flush contacted area with water for about 15 min. If irritation persists, seek medical attention. INHALATION: Remove victim to fresh air area. If breathing stopped, give artificial respiration. Seek medical attention. INGESTION: Do not induce vomiting. Seek medical attention.

Section VII - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled

No special precautions are necessary for spills of cast lead alloy parts.

Waste Disposal Method

Scrap metal can be reclaimed for reuse. Follow federal, state and local regulations for disposal.

Precautions to Be Taken in Handling and Storing Store in dry area.

Other Precautions Always use good hygiene practices when handling lead and its compounds.

Recommended practice includes showering at the end of each work shift, lead contaminated clothing should be properly laundered, wash thoroughly after handling and before eating, drinking and smoking.

Section VIII - Control Measures

Respiratory Protection (Specify Type)

When exposure concentrations exceed the PEL, appropriate respiratory protection is required.

Ventilation	Local Exhaust	Special
	Mechanical (General)	Other
	most effective point source control method	
	minimal requirement	

Protective Gloves Protective clothing, gloves, and

Eye Protection

Respirators are recommended where lead fume or dust is generated. Face shield is recommended for handling molten material.

Other Protective Clothing or Equipment

Good hygiene and housekeeping practices are essential. Avoid breathing lead dust or fumes.

Map(s) is kept with this application located in the Public Information Center of our Salt Lake City office.